

REMARKS

Claims 1-6, 10, and 16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dyck et al. (U.S. Patent No. 6,393,913), Werner (U.S. Patent No. 6,133,059), and Park et al. (U.S. Patent No. 5,747,690). In response, Applicants amended independent claim 1 to include, among other things, insulating layers interposed between the bottom surfaces of the first and second stable electrode columns and the base substrate and including a corrosion vestige retracting inward from a contour of the bottom surface in an amount of one-half the thickness of the movable electrode, and respectfully traverse.

Claim 1 defines the movable electrode, first stable electrode wall, and the second stable electrode wall as having a thickness W . Claim 1 further defines insulating layers. One of the insulating layers is interposed between the bottom surface of the first stable electrode column and the base substrate. Another one of the insulating layers is interposed between the bottom surface of the second stable electrode column and the base substrate. A corrosion vestige is formed on the insulating layers and retracts from a contour of the bottom surface of the second electrode column and the base substrate by an amount of $W/2$. (See Applicants' specification, page 14, lines 12-27 and FIG. 14).

The structure of the present invention has insulating layers that remain below the first and second stable electrode columns so that an insulating layer below the moveable electrode is removed after the insulating film, which includes the insulating layers, is subjected to an etching process. In particular, the duration or rate of the etching process can be set based on the parameter $W/2$. After the etching process, the insulating layers remain

below the first and second stable electrode columns. That is, the first and second stable electrode columns are fixed between the stable electrodes and the base substrate.

Furthermore, as the insulating film is subjected to etching, the insulating film suffers from corrosion. Therefore, a corrosion vestige is formed on the insulating layers below the first and second stable electrode columns. This corrosion vestige retracts from the contour of the bottom surface of the first and second stable electrode columns in the amount of $W/2$.

Dyck and Park both fail to disclose or even suggest an insulating layer and a corrosion vestige formed on the insulating layer. Werner merely discloses a corrosion vestige on an insulating layer 2 as shown in FIGs. 4, 5a and 5b. However, Werner utilizes a different mask in order to remove the insulating layer below the moving electrode. (See Col. 5, lns. 50-57).

In contrast, the first and second stable electrode columns of the present invention act as a mask. This configuration causes the insulating film below the movable electrode to be removed. Since the prior art does not disclose these features, withdrawal of the §103 rejection of claim 1 and its depending claims is respectfully requested.

Claim 16 is similarly amended to include an insulating layer interposed between the bottom surface of the electrode column and the base substrate and a corrosion vestige that is formed on the insulating layer. Applicants respectfully traverse the rejection and request allowance of independent claim 16 for the reasons recited above.

Claims 11-13 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dyck, Werner, and Park. Applicants traverse the rejection for the reasons recited above to reject independent claims 1 and 16. With respect to dependent claim 11, Applicants traverse the rejection because the cited references fail to teach or suggest a distance between the first and second datum planes and a wall thickness of the movable electrode as a result-effective variable.

MPEP 2144.05 II. B. requires that a particular parameter must first be recognized as a result-effective variable (i.e., a variable which achieves a recognized result) before a determination of the optimum or workable ranges of the variable might be characterized as routine experimentation. None of the cited references discloses a relationship between first and second datum planes and a wall thickness of a moveable electrode. Dyck is concerned with a need for MEM resonator structures, which are relatively insensitive to dampening produced by an atmospheric ambient and to changes in pressure and temperature (Col. 1, Ins. 40-43). Werner teaches the use of Monocrystal and silicon instead of polysilicon layers so that mechanical properties are not subjected to degradation over time and stability is improved (Col. 2, Ins. 45-53).

Park merely discloses having sensing electrodes 38 arranged along lengthwise direction between connecting portions 36 for connecting the stripe portions 35 and 35 prime (Col. 4, Ins. 61-65). Park is concerned with the capacitance between two electrodes, but does not teach any dimensions of the electrodes (Col. 6, Ins. 59-65).

Accordingly, since the cited references do not recognize any relationship between a width between datum planes defined by the outward surfaces of the stable electrode walls, and a thickness of a wall of the movable electrode, there can be no optimization of these parameters. For these reasons, withdrawal of the §103 rejection of claims 11-13 is respectfully requested.

Claims 14-15 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Dyke, Werner, Park and Fujii et al. (U.S. Patent No. 6,227,050). Applicants respectfully traverse the rejection for the reasons recited above with respect to the rejection of independent claim 1.

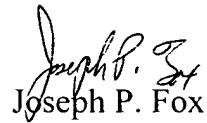
Since claim 15 depends upon claim 1, it necessarily includes all of the features of its associated independent claim plus other additional features. Thus, Applicants submit that the §103 rejection of claim 15 has also been overcome for the same reasons mentioned above to overcome the rejection of independent claim 1, and also because the Fujii reference fails to overcome the deficiencies of the other cited references. Applicants respectfully request that the §103 rejection of claim 15 also be withdrawn.

For all of the foregoing reasons, Applicant submits that this Application is in condition for allowance, which is respectfully requested. The Examiner is invited to contact the undersigned attorney if an interview would expedite prosecution.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By


Joseph P. Fox

Registration No. 41,760

January 21, 2005

300 South Wacker Drive
Suite 2500
Chicago, Illinois 60606
Telephone: 312.360.0080
Facsimile: 312.360.9315
Customer Number 24978